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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,565	01/06/2006	Keisuke Funaki	283189US8PCT	3738
22850 7590 04/15/2009 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER				
FERGUSON, LAWRENCE D				
ART UNIT		PAPER NUMBER		
1794				
NOTIFICATION DATE		DELIVERY MODE		
04/15/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com  
oblonpat@oblon.com  
jgardner@oblon.com

### Office Action Summary

**Application No.**

10/563,565

**Applicant(s)**

FUNAKI ET AL.

**Examiner**

Lawrence D. Ferguson

**Art Unit**

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. This action is in response to the amendment filed December 29, 2008.

Claims 1, 4, 7 and 13 were amended and claim 2 was cancelled rendering claims 1 and 3-20 pending.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Claim Rejections – 35 USC § 102(b)***

3. Claims 1, 3 and 5-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirai et al (U.S. 6,664,313).

Hirai discloses a light reflection composition (sheet) having a thickness of 2mm comprising polycarbonate resin composition containing titanium oxide, where the composition has a light reflectance of not less than 90% and a light transmittance of not more than 0.3% (column 1, line 62 through column 2, line 14 and column 10, lines 42-48). The content of titanium oxide is in the range of 3 to 30 parts by weight based on 100 parts by weight of the polycarbonate resin (column 4, lines 50-52). The composition of Hirai further comprises 0.01 to 9 parts by weight of a polyorganosiloxane polymer, along with 9 parts by weight and 5 parts by weight of additional material (column 2, lines

7-17) where the maximum parts by weight of the titanium oxide and additional materials combine to have 44 parts by weight, which results in the polycarbonate and polyorganosiloxane copolymer materials having 56 parts by weight per 100 parts by weight of the composition. Because the composition of Hirai contains a single layer of material, the composition is construed as a sheet, as in claim 1.

Regarding claim 3, the polycarbonate resin composition excel in flame retardancy, including the thin test pieces which pass the level of V-0 in a flame test (column 15, lines 16-20). In claim 3, the phrase, "in a vertical flame retardant test according to a UL94 method" introduces a process limitation to the product claim. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966. Further, process limitations are given little patentable weight in product claims.

Regarding claims 5-6, Hirai discloses a molding article (column 1, line 66 through column 2, line 3). In claims 5 and 6, the phrases, "prepared by heating the light reflection sheet at a temperature of 160 to 200°C and then thermally molding it at a spreading magnification of 1.1 to 2 times" and "prepared by thermally molding the light reflection sheet" introduces process limitations to the product claims. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re

Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966. Further, process limitations are given little patentable weight in product claims. Because Hirai does not disclose the molded article is uneven, the article meets the limitation of having an unevenness of 0.0.

***Claim Rejections – 35 USC § 103(a)***

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirai et al (U.S. 6,664,313).

Hirai is taken as above. Hirai discloses extrusion molding the polycarbonate resin composition (column 10, lines 42-56) where it would have been expected to one of ordinary skill in the art for the molded composition to be dried prior to extruding and molding, so the material can be shaped. The material could not be shaped properly in an undried state. Additionally, although Hirai does not teach the temperature or time of the processes, because the reference discloses the same sheet material for the same purpose (light reflection), it would have been obvious to one of ordinary skill in the art for the drying temperature, time and molding/rolling temperature to be met in the manufacturing of the light reflection sheet of Hirai.

***Claim Rejections – 35 USC § 103(a)***

5. Claims 7-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirai et al (U.S. 6,664,313) in view of Ekinaka et al (U.S. 6,846,567).

Hirai is taken as above. Hirai does not disclose a light fast layer. Ekinaka teaches a coating layer formed on the surface of a molded polycarbonate substrate (column 3, line 66 through column 4, line 10), where the coating comprises an acrylic resin and a light stabilizer and/or ultraviolet absorber component (column 11, line 60 through column 12, line 6) and the coating layer has a thickness of 0.1 to 10 $\mu$ m (column 12 lines 36-41). The ultraviolet absorbent component contains a benzophenone base compound (column 10, lines 55-67). Hirai and Ekinaka are combinable because they are related to molded polycarbonate sheets. It would have been obvious to one of ordinary skill in the art to have coated the coating material (light fast layer) having an acrylic resin and light stabilizer on the polycarbonate light reflection sheet of Hirai to achieve the predictable result of improving the weatherability and durability of the polycarbonate sheet (column 2, lines 25-28) as taught in Ekinaka, as in claims 7-9 and 18. In claim 7, the phrase, "cuts or absorbs a UV ray in a thickness of 0.5 to 20 $\mu$ m on at least one face of a base sheet" introduces a process limitation to the product claim. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966. Further, process limitations are given little patentable weight in product claims. In claim 8, the term "polymerizable" constitutes a 'capable of' limitation and that such a recitation that an element is 'capable of' performing a function is not a positive limitation but only requires the ability to so perform.

Regarding claims 10 and 16, Hirai discloses a light reflection composition (sheet) having a light reflectance of not less than 90% (column 10, lines 42-48). In claims 10 and 16, the phrase, "measured by irradiating the surface of the light-fast layer with light of a visible light region wavelength" introduces a process limitation to the product claim. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966. Further, process limitations are given little patentable weight in product claims.

Regarding claims 11, 17 and 19, because Hirai and Ekinaka comprise the same material (light reflecting sheet and light fast layer) as Applicant, it would have been expected to one of ordinary skill in the art for a color difference of 5% or less of the light fast layer between before and after irradiation of the light fast layer and for a difference between a total reflectance to be 4% or less. In claims 11 and 19, the phrase, "irradiating the surface of the light fast layer with a UV ray in an energy amount of 20 J/cm by means of a high pressure mercury lamp is 10 or less" introduces a process limitation to the product claim. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966. Further, process limitations are given little patentable weight in product claims.

Regarding claims 12 and 20, Hirai discloses a molding article (column 1, line 66 through column 2, line 3). In claims 12 and 20, the phrase, "obtained by thermally molding the light reflecting sheet" introduces a process limitation to the product claim. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In *re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966. Further, process limitations are given little patentable weight in product claims.

Regarding claims 13-15, Ekinaka teaches a layer comprising silica particles (diffusion layer) having a diameter and dispersed in a solvent (column 13, lines 18-21) such as acryl resin. Although the reference does not disclose the exact diameter or mass percentage of the particle, a particle diameter and mass percent are optimizable. It would have been obvious to one of ordinary skill in the art to optimize the particle size and mass percent of the diffusion layer because discovering the optimum or workable range involves only routine skill in the art. The particle size and mass percent of the silica particles directly affect the mechanical strength of the diffusion layer. In *re Aller* 105 USPQ 233 and see *In re Boesch*, 617 USPQ 215. Additionally, it would have been obvious to increase the particle size of the silica particles in the diffusion layer of Ekinaka to improve the reflecting properties of the diffusing layer. Because claim 14 only requires organic particles or inorganic particles, the Examiner is examining claims 14 and dependent claim 15 based upon an inorganic particle.



***Response to Arguments***

6. The objection of the abstract is withdrawn due to Applicant submitting a substitute Abstract that is limited to a single paragraph and contains no more than 150 words.

The rejection made under 35 U.S.C. 102(b) as being anticipated by Hiroshi et al (JP 2003-176367 machine translation) is withdrawn due to Applicant amending claim 1 to include "(A) comprises (A-1) a polycarbonate-polyorganosiloxane copolymer and (A-1) is 10 to 58 parts by mass per 100 parts by mass of the total of (A) and (B)."

The rejection made under 35 U.S.C. 103(a) as being unpatentable over Hiroshi et al (JP 2003-176367 machine translation) in view of Ekinaka et al (U.S. 6,846,567) is also withdrawn due to Applicant's amending claims 1, 7 and 13 to include "(A) comprises (A-1) a polycarbonate-polyorganosiloxane copolymer and (A-1) is 10 to 58 parts by mass per 100 parts by mass of the total of (A) and (B)."

Applicant's arguments of the rejection made under 35 U.S.C. 102(b) as being anticipated by Hirai et al (U.S. 6,664,313) have been considered but are unpersuasive. Applicant argues Hirai does not disclose the recently added limitation of "wherein (A) comprises (A-1) a polycarbonate-polyorganosiloxane copolymer and (A-1) is 10 to 58 parts by mass per 100 parts by mass of the total of (A) and (B). Hirai discloses a light reflection composition (sheet) comprising polycarbonate resin composition containing titanium oxide (column 1, line 62 through column 2, line 14 and column 10, lines 42-48) where the content of titanium oxide is in the range of 3 to 30 parts by weight based on 100 parts by weight of the polycarbonate resin (column 4, lines 50-52). The composition

of Hirai further comprises 0.01 to 9 parts by weight of a polyorganosiloxane polymer, along with 9 parts by weight and 5 parts by weight of additional material (column 2, lines 7-17) where the maximum parts by weight of the titanium oxide and additional materials combine to have 44 parts by weight, which results in the polycarbonate and polyorganosiloxane copolymer materials having 56 parts by weight per 100 parts by weight of the composition.

Applicant's arguments of the rejection made under 35 U.S.C. 103(a) as being unpatentable over Hirai et al (U.S. 6,664,313) have been considered but are unpersuasive. Applicant argues Hirai does not disclose the recently added limitation of "wherein (A) comprises (A-1) a polycarbonate-polyorganosiloxane copolymer and (A-1) is 10 to 58 parts by mass per 100 parts by mass of the total of (A) and (B). Examiner maintains Hirai discloses a light reflection composition (sheet) comprising polycarbonate resin composition containing titanium oxide (column 1, line 62 through column 2, line 14 and column 10, lines 42-48) where the content of titanium oxide is in the range of 3 to 30 parts by weight based on 100 parts by weight of the polycarbonate resin (column 4, lines 50-52). The composition of Hirai further comprises 0.01 to 9 parts by weight of a polyorganosiloxane polymer, along with 9 parts by weight and 5 parts by weight of additional material (column 2, lines 7-17) where the maximum parts by weight of the titanium oxide and additional materials combine to have 44 parts by weight, which results in the polycarbonate and polyorganosiloxane copolymer materials having 56 parts by weight per 100 parts by weight of the composition.

Applicant's arguments of the rejection made under 35 U.S.C. 103(a) as being unpatentable over Hirai et al (U.S. 6,664,313) in view of Ekinaka et al (U.S. 6,846,567) have been considered but are unpersuasive. Applicant argues Ekinaka is also silent with respect to a polycarbonate resin composition comprising (A) a polycarbonate base polymer which in turn comprises (A-1) a polycarbonate-polyorganosiloxane copolymer in a specified amount. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Harai has been relied upon to disclose a polycarbonate base polymer which comprises a polycarbonate polyorganosiloxane copolymer at 56 parts by weight per 100 parts by weight of the composition.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Ferguson whose telephone number is 571-272-1522. The examiner can normally be reached on Monday through Friday 9:00 AM – 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample, can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Lawrence Ferguson/  
Patent Examiner, Art Unit 1794

/David R. Sample/  
Supervisory Patent Examiner, Art Unit 1794